c) Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A non-invasive method for gene regulation during gene therapy comprising the steps of:

(a) introducing electromagnetic field response elements into a gene promoter not having any electromagnetic field response elements *in vitro*;

(b) then introducing the gene promoter from step (a) into a subject to serve as switches for regulating exogenously introduced genes; and

(c) applying an electromagnetic field to the introduced electromagnetic field response elements to induce gene expression in the subject to treat a genetic disease selected from the group consisting of diabetes, heart disease, and cancer.

2. (Original) The method as set forth in claim 1, wherein the introduced electromagnetic field response elements are nCTCTn sequences in an HSP70 gene promoter.

3. (Previously Amended) The method as set forth in claim 2, wherein three nCTCTn sequences in an HSP70 promoter are introduced.

4. (Original) The method as set forth in claim 3, wherein the nCTCTn sequences lie between about -230 and about -160 in

the HSP70 gene promoter.

5. (Original) The method as set forth in claim 1, wherein the introduced electromagnetic field response elements are nCTCTn sequences in a c-*myc* gene promoter.

6. (Previously Amended) The method as set forth in claim 5, wherein eight nCTCTn sequences in a c-myc gene promoter are introduced.

7. (Original) The method as set forth in claim 6, wherein the nCTCTn sequences lie between about -1257 and about -353 in the c-*myc* gene promoter.

8. (Original) The method as set forth in claim 1, wherein the electromagnetic field is applied at a field strength of about 8μT and a frequency of about 60Hz for a time of about 30 minutes.

9. (Currently Amended) A non-invasive method for gene regulation during gene therapy comprising the steps of:

(a) introducing at least one electromagnetic field response elements into a gene promoter not having any electromagnetic field response elements *in vitro*;

(b) then introducing the gene promoter from step (a) into a subject mammal to serve as switches for regulating exogenously introduced genes; and

(c) applying an electromagnetic field to each introduced electromagnetic field response element to induce gene expression in the subject <u>to treat a genetic disease selected from the group consisting of diabetes, heart disease, and cancer</u>.

10. (Original) The method as set forth in claim 9, wherein each introduced electromagnetic field response element is an nCTCTn sequence in an HSP70 gene promoter.

11. (Original) The method as set forth in claim 9, wherein each introduced electromagnetic field response element is an nCTCTn sequence in a *c-myc* gene promoter.

12. (Original) The method as set forth in claim 9, wherein the electromagnetic field is applied at a field strength of about 8μT and a frequency of about 60Hz for a time of about 30 minutes.

13. (New) An expression vector comprising:

(a) a nucleic acid whose expression is desired; and

(b) a promoter which permits the expression of the nucleic acid, wherein (i) the promoter does not comprise endogenous electromagnetic response elements, and (ii) the promoter comprises at least one exogenous electromagnetic response element which, when the expression vector is in a cell, regulates the expression of the nucleic acid by application of an electromagnetic field to the cell.

14. (New) The vector in claim 13, wherein more than one electromagnetic field response element is introduced.

15. (New) The vector in claim 13, wherein each introduced electromagnetic field response element is an nCTCTn sequence in an HSP70 gene promoter.

16. (New) The step in claim 15, wherein three nCTCTn sequences

in an HSP70 promoter are introduced.

17. (New) The step in claim 16, wherein the nCTCTn sequences lie between about -230 and about -160 in the HSP70 gene promoter.

18. (New) The vector in claim 13, wherein each introduced electromagnetic field response element is an nCTCTn sequence in a c-*myc* gene promoter.

19. (New) The step in claim 18, wherein eight nCTCTn sequences in a c-myc gene promoter are introduced.

20. (New) The step in claim 19, wherein the nCTCTn sequences lie between about -1257 and about -353 in the c-*myc* gene promoter.

21. (New) The step in claim 13, wherein the electromagnetic field is applied at a field strength of about 8μT and a frequency of about 60Hz for a time of about 30 minutes.

22. (New) A method for regulating the expression of a nucleic acid in a cell comprising applying an electromagnetic field to a cell having therein an expression vector comprising:

(a) the nucleic acid and

(b) a promoter which permits the expression of the nucleic acid, wherein (i) the promoter does not comprise endogenous electromagnetic response elements, and (ii) the promoter comprises at least one exogenous electromagnetic response element which, when the expression vector is in a cell, regulates expression of the nucleic acid by application of an

electromagnetic field to the cell, so as to thereby regulate the expression of the nucleic acid in the cell.

23. (New) The method in claim 22, wherein more than one electromagnetic field response element is introduced.

24. (New) The method in claim 22, wherein each introduced electromagnetic field response element is an nCTCTn sequence in an HSP70 gene promoter.

25. (New) The method in claim 24, wherein three nCTCTn sequences in an HSP70 promoter are introduced.

26. (New) The method in claim 25, wherein the nCTCTn sequences lie between about -230 and about -160 in the HSP70 gene promoter.

27. (New) The method in claim 22, wherein each introduced electromagnetic field response element is an nCTCTn sequence in a c-*myc* gene promoter.

28. (New) The method in claim 27, wherein eight nCTCTn sequences in a c-myc gene promoter are introduced.

29. (New) The method in claim 28, wherein the nCTCTn sequences lie between about -1257 and about -353 in the c-*myc* gene promoter.

30. (New) The method in claim 22, wherein the electromagnetic field is applied at a field strength of about 8μT and a frequency of about 60Hz for a time of about 30 minutes.